UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,607	05/23/2001	Peter J. Brittenham	RSW920010106US1	3651

7590 03/28/2005	EXAMINER
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ART UNIT	PAPER NUMBER
2157	

PO Box 12195
Research Triangle Park, NC 27709

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	**Application No.**	**Applicant(s)**
	09/864,607	BRITTENHAM ET AL.
	Examiner	**Art Unit**	
	Emmanuel Coffy	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 January 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Response to Amendment

1.   This action is responsive to the amendment filed on December 10, 2004. Claims 1-24 are canceled; added claims 25-26, 28-48, and 50 correspond thereto. Claims 27, 49, and 51 are new. Claims 25-51 represent a method, system and computer program product for a "Dynamic Undeployment of Services in a Computing Network."

Response to Arguments

2.   In the remarks, applicant argues that Riefer fails to teach or suggest determining one or more locations where a service is deployed. However, applicant pointed to col. 4, lines 24-29 for the proposition that Reifer determines the subscriber's location with accuracy sufficient for control; the Home gateway determines whether it is permissible for the call to proceed. Thus, the subscriber's location is determined and the gateway provides a service: that of determining whether it is permissible for the call to proceed.

Furthermore, in response to applicant's arguments against the reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

3.   Applicant next argued that Khello and Reifer when combined fails [sic] to teach or suggest determining one or more locations where a service is deployed.

As stated above, the subscriber's location is determined and the gateway provides a service: that of determining whether it is permissible for the call to proceed.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the

claimed invention must be expressly suggested in any one or all of the references.

Rather, the test is what the combined teachings of the references would have

suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981).

4.   As for the arguments regarding claim 27, it is a newly added claim, which has not

yet been examined. Therefore, applicant is directed to see the rejection which follows.

5.   Applicant's arguments have thus been fully considered but they are not

persuasive. In response to Applicant's arguments, 37 CFR § 1.111(c) requires applicant

to "clearly point out the patentable novelty which he or she thinks the claims present in

view of the state of the art disclosed by the references cited or the objections made.

6.   The claims save the newly added ones namely claims 27, 49 and 51 stand

rejected as articulated in the First Office Action (see below) and all objections not

addressed in Applicant's response are herein reiterated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a
person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived
by the manner in which the invention was made.

7.   Claims 25-51 are rejected under 35 U.S.C. §103(a) as being unpatentable over

Khello (US 5,657,451) in view of Reifer et al. (US 6,421,727.)

Khello teaches the invention substantially as claimed including a generic service

coordination mechanism which solves feasible service interaction problems taking into

account real-time processing constraints within telecommunication networks. Data

defined on the basis of a general allocation, an individual subscriber allocation, and a

service allocation is manipulated during provision and withdrawal, activation and

deactivation, and invocation and operation of service procedures. (See abstract).

Claim 25:

Khello substantially teaches the invention including a method of dynamically

undeploying services in a computing network, comprising steps of:

receiving an undeployment trigger for a selected service;(See col. 8, lines 54-56)

determining one or more network locations where the selected service is

deployed; and

effecting a dynamic undeployment by programmatically removing the selected

service from one or more selected ones of the network locations. (See col. 8, lines 54-

67).

Khello teaches the elements of the claim as outlined above. Khello does not

explicitly teach determination of network locations. However, Reifer teaches a gateway

that receives and evaluate the location of a "service gateway" in order to determine

whether it is permissible for a service request to proceed. (See col. 4, lines 24-29).

Hence, it would have been obvious at the time of the invention for an artisan of ordinary

skill in the art to combine the system taught by Khello with the location determination

disclosed by Reifer because this essential feature would help ensure compliance with

restrictions to subscribed services.

Claim 26:

Khello substantially teaches the invention including the method according to claim 25, further comprising the steps of: (See col. 13, lines 9-21)

receiving client requests for the selected service; and (See col. 6, lines 30-34).

continuing to serve the received requests from the network locations other than the one or more selected ones from which the selected service was programmatically removed. (See col. 6, lines 30-43).

Claim 27:

The method according to claim 25:

wherein services comprise web services;

wherein receiving an undeployment trigger comprises receiving an undeployment trigger for a selected web service in the computing network; (See col. 8, lines 54-56.)

wherein determining one or more network locations comprises determining one or more network locations where the selected web service is deployed in the computing network; and

wherein effecting a dynamic undeployment comprises effecting a dynamic undeployment by programmatically removing the selected web service from one or more selected ones of the network locations in the computing network. (See col. 8, lines 54-67.)

Khello teaches the elements of the claim as outlined above. Khello does not explicitly teach determination of network locations and web services. However, Reifer teaches a gateway that receives and evaluate the location of a "service gateway" in order to determine whether it is permissible for a service request to proceed. (See col.

4, lines 24-29) and web services (See Fig. 8 and Fig. 9). Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the system taught by Khello with the location determination disclosed by Reifer. This feature is essential to help ensure compliance with restrictions.

Claim 29:

Khello teaches the invention substantially as claimed including the method according to claim 29, wherein the undeployment trigger is an undeployment request issued by an origin server from which the selected service was initially deployed.

Khello teaches sending an undeployment request by a coordination mechanism. (See col. 15, lines 46-50). Khello does not explicitly teach an origin server issuing the undeployment request. However, Reifer teaches an origin server requesting service activation. (See abstract). Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the system taught by Khello with the internetworking system disclosed by Reifer. There is a need to identify the server which server is requesting service removal. Therefore, claim 29 is rejected.

Claim 30:

The method according to claim 29, further comprising steps of:

sending the undeployment request to all of the network locations; (see col. 8, lines 54-67.)

shutting down the selected service at the network locations, responsive to the receiving step, and removing executed code which implements the selected service from a run-time environment of each network location; (see col. 8, line 54-col. 9, line 67.)

shutting down the selected service at the origin server; and, responsive to the

receiving step, and removing executed code which implements the selected service

from a run-time environment of each network location; and (see col. 8, line 54-col. 9,

line 67.)

making the selected service unlocatable in the computing network. (See col. 16,

lines 45-65)(when the state of the service is set to "BARRED" it is then unlocatable from

a routing system.)

Claim 31

Referring to claim 31, it recites the method according to claim 25, wherein the

undeployment trigger is based upon usage of the selected service at the network

locations.

Khello does not explicitly teach undeployment based upon usage of selected

service. However, Reifer teaches managing usage information of the network. (See col.

4, lines 46-47). Hence, it would have been obvious at the time of the invention for an

artisan of ordinary skill in the art to combine the system taught by Khello with the

network's usage information disclosed by Reifer. Usage is synonymous with load. This

feature would allow load balancing across a network. Therefore, claim 31 is rejected.

Claim 32:

Khello teaches the invention substantially as claimed including the method

according to claim 31, wherein the usage is an average number of client requests for

the selected service within a predetermined time interval. (See col. 6, lines 1-3).

Claim 33:

Khello teaches the invention substantially as claimed including the method according to claim 31, further comprising comparing the usage of the selected service to a predetermined threshold, and sending the undeployment trigger when the usage falls below the predetermined threshold.

Khello does not explicitly teach comparing the usage of the selected service to a predetermined threshold. However, Reifer teaches usage comparison at col. 5, lines 13-16. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the system taught by Khello with the network's usage comparisondisclosed by Reifer because this feature would allow load balancing across a network. Therefore, claim 33 is rejected.

Claim 34:

Referring to claim 34, it recites the method according to claim 33, wherein a value of the predetermined threshold may be modified over time. It is implicit that a threshold value in a network system may be modified over time based on the usage reports. (See Reifer, col. 6, lines 55-60.) Therefore, claim 34 is rejected.

Claim 35:

Khello teaches the invention substantially as claimed including the method according to claim 33, wherein a value of the predetermined threshold applies to a plurality of deployed services. (See col. 5, lines 52-54).

Claim 36:

Khello teaches the invention substantially as claimed including the method

according to claim 33, wherein the predetermined threshold applies individually to the

selected service. (See col. 5, lines 52-54).

Claim 37:

Khello teaches the invention substantially as claimed including the method

according to claim 33, wherein a value of the predetermined threshold applies to all of

the network locations. (See col. 5, lines 52-54 and lines 22-26.)

Claim 38:

Khello teaches the invention substantially as claimed including the method

according to claim 33, wherein a value of the predetermined threshold applies to the

one or more selected ones of the network locations. (See col. 5, lines 52-58.)(service

restriction only applies to a certain location).

Claim 39:

Khello teaches the invention substantially as claimed including the method

according to claim 33, wherein a value of the predetermined threshold is initially set

when the selected service is deployed. (See col. 14, lines 35-51.)

Claim 40:

Khello teaches the invention substantially as claimed including the method

according to claim 33, further comprising the step of obtaining the usage at periodic

intervals for use when comparing the usage of the selected service to a predetermined

threshold.

Khello teaches a predetermined threshold but fails to teach usage at periodic

intervals. However, Reifer explicitly teaches usage reports capturing monthly system

activity. (see col. 6, lines 55-65.)

Hence, it would have been obvious at the time of the invention for an artisan of

ordinary skill in the art to combine the system taught by Khello with the network's usage

information disclosed by Reifer. Usage is synonymous with load because this feature

would allow load balancing across a network. Therefore, claim 40 is rejected.

Claim 41:

Khello teaches the invention substantially as claimed including the method

according to claim 40, wherein the obtaining step obtains the usage from all of the

network locations.

Khello teaches a predetermined threshold but fails to teach usage at periodic

intervals. However, Reifer explicitly teaches usage reports capturing monthly system

activity. (see col. 6, lines 55-65.)

Hence, it would have been obvious at the time of the invention for an artisan of

ordinary skill in the art to combine the system taught by Khello with the network's usage

information disclosed by Reifer. Usage is synonymous with load. This feature would

allow load balancing across a network. Therefore, claim 41 is rejected.

Claim 42:

Khello teaches the invention substantially as claimed including the method

according to claim 41, wherein the obtaining step obtains the usage from representative

ones of the network locations.

Khello teaches a predetermined threshold (col. 5, lines 51-54) but fails to teach

usage at periodic intervals. However, Reifer explicitly teaches usage reports capturing

monthly system activity. (see col. 6, lines 55-65.)

Hence, it would have been obvious at the time of the invention for an artisan of

ordinary skill in the art to combine the system taught by Khello with the network's usage

information disclosed by Reifer. Usage is synonymous with load. This feature would

allow load balancing across a network. Therefore, claim 42 is rejected.

Claim 43:

Khello teaches the invention substantially as claimed including the method

according to claim 41, wherein the programmatically removing occurs at a particular one

of the network locations, and wherein the obtaining step obtains the usage from the

particular one.

Khello teaches the removal of a particular service (col. 8, lines 54-57) but fails to

teach usage at periodic intervals. However, Reifer explicitly teaches usage reports

capturing monthly system activity. (See col. 6, lines 55-65.)

Hence, it would have been obvious at the time of the invention for an artisan of

ordinary skill in the art to combine the system taught by Khello with the network's usage

information disclosed by Reifer. This feature would allow charges to be posted for the

particular client by providing usage information at the time of service removal.

Therefore, claim 43 is rejected.

Claim 44:

Khello teaches the invention substantially as claimed including the method according to claim 25 further comprising the steps of: monitoring a load on the computing network; and triggering the dynamic undeployment when the monitored load meets a predetermined threshold.

Khello teaches a predetermined threshold (col. 5, lines 51-54) and Khello teaches the removal of a particular service (col. 8, lines 54-57) but fails to teach usage at periodic intervals. However, Reifer explicitly teaches usage reports capturing monthly system activity. (See col. 6, lines 55-65.) (usage implies monitor – usage cannot be determined without monitoring.)

Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the system taught by Khello with the network's usage information disclosed by Reifer. This feature would allow charges to be posted for the particular client by providing usage information at the time of service removal.

Claim 45:

Khello teaches the invention substantially as claimed including the method according to claim 33, wherein the programmatically removing step further comprises the step of issuing an undeployment request for the selected service to the one or more selected ones. (See col. 8, lines 54-67.)

Claim 46:

Khello teaches the invention substantially as claimed including further

comprising:

receiving the undeployment request at a particular one of the network locations,

the particular one being the selected one of the network locations from which the

selected service is being dynamically undeployed; and (See col. 16, lines 45-65)

shutting down the selected service at the particular one, responsive to the

receiving step, and removing executed code which implements the selected service

from a run-time environment of the particular one. (See col. 16, lines 45-65.)

Claim 47:

Khello teaches the invention substantially as claimed including the method

according to claim 46 further comprising the step of making the selected service

unlocatable from a routing system. (See col. 16, lines 45-65)(when the state of the

service is set to "BARRED" it is then unlocatable from a routing system.)

Claim 48:

A system for dynamically undeploying services in a computing network,

comprising:

means for receiving an undeployment trigger for a selected service; (see col. 8,

lines 54-56.)

means for determining one or more network locations where the selected service

is deployed; and

means for effecting a dynamic undeployment by programmatically removing the selected service from one or more selected ones of the network locations. (See col. 5, lines 59-67.)

Khello teaches the elements of the claim as outlined above. Khello does not explicitly teach determination of network locations. However, Reifer teaches a gateway that receives and evaluate the location of a "service gateway" in order to determine whether it is permissible for a service request to proceed. (See col. 4, lines 24-29). Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the system taught by Khello with the location determination disclosed by Reifer. This feature is essential to help ensure compliance with restrictions.

Claim 49:

The system according to claim 48:

wherein services comprise web services;

wherein receiving an undeployment trigger comprises receiving an undeployment trigger for a selected web service in the computing network; (See col. 8, lines 54-56.)

wherein determining one or more network locations comprises determining one or more network locations where the selected web service is deployed in the computing network; and

wherein effecting a dynamic undeployment comprises effecting a dynamic undeployment by programmatically removing the selected web service from one or more selected ones of the network locations in the computing network. (See col. 8, lines 54-67.)

Khello teaches the elements of the claim as outlined above. Khello does not

explicitly teach determination of network locations and web services. However, Reifer

teaches a gateway that receives and evaluate the location of a "service gateway" in

order to determine whether it is permissible for a service request to proceed. (See col.

4, lines 24-29) and web services (See Fig. 8 and Fig. 9). Hence, it would have been

obvious at the time of the invention for an artisan of ordinary skill in the art to combine

the system taught by Khello with the location determination disclosed by Reifer. This

feature is essential to help ensure compliance with restrictions.

Claim 50:

A computer program product for dynamically undeploying services in a

computing network, the computer program product embodied on one or more computer-

readable media and comprising:

computer-readable program code means for receiving an undeployment trigger

for a selected service; (See col. 8, lines 54-56.)

computer-readable program code means for determining one or more network

locations where the selected service is deployed; and

computer-readable program code means for effecting a dynamic undeployment

by programmatically removing the selected service from one or more selected ones of

the network locations. (See col. 5, lines 59-67.)

Khello teaches the elements of the claim as outlined above. Khello does not

explicitly teach determination of network locations. However, Reifer teaches a gateway

that receives and evaluate the location of a "service gateway" in order to determine

whether it is permissible for a service request to proceed. (See col. 4, lines 24-29).

Hence, it would have been obvious at the time of the invention for an artisan of ordinary

skill in the art to combine the system taught by Khello with the location determination

disclosed by Reifer because this essential feature would help ensure compliance with

restrictions.

Claim 51:

The computer program product according to claim 50:

wherein services comprise web services;

wherein receiving an undeployment trigger comprises receiving an undeployment

trigger for a selected web service in the computing network; (See col. 8, lines 54-56.)

wherein determining one or more network locations comprises determining one

or more network locations where the selected web service is deployed in the computing

network; and

wherein effecting a dynamic undeployment comprises effecting a dynamic

undeployment by programmatically removing the selected web service from one or

more selected ones of the network locations in the computing network. (See col. 8, lines

54-67.)

Khello teaches the elements of the claim as outlined above. Khello does not

explicitly teach determination of network locations and web services. However, Reifer

teaches a gateway that receives and evaluate the location of a "service gateway" in

order to determine whether it is permissible for a service request to proceed. (See col.

4, lines 24-29) and web services (See Fig. 8 and Fig. 9). Hence, it would have been

obvious at the time of the invention for an artisan of ordinary skill in the art to combine

the system taught by Khello with the location determination disclosed by Reifer. This

feature is essential to help ensure compliance with restrictions.

8.   Claim 28 is rejected in further view of French et al. (US 6,745,241)

Claim 28:

        Referring to claim 28, it recites the method according to claim 25, wherein the

undeployment trigger is based upon network load at the network locations.

        Khello teaches receiving an undeployment request , Khello does not explicitly

teach that said undeployment trigger be based upon network load; neither does Reifer.

        However, French teaches network loading configuration. Hence, it would have

been obvious at the time of the invention for an artisan of ordinary skill in the art to

combine the system taught by Khello and Reifer with the network's loading configuration

disclosed by French. This feature would allow load balancing across a network.

9.   **THIS ACTION IS MADE FINAL.**

        Applicant's amendment (addition of new claims) necessitated the new ground(s)

of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE

FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy

as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

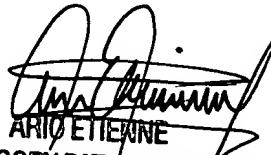than SIX MONTHS from the mailing date of this final action.

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Emmanuel Coffy whose telephone number is (571) 272-

3997. The examiner can normally be reached on 8:30 - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Coffy
Patent Examiner
Art Unit 2157

***EC
March 1, 2005

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